KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

A Skilled and Ethical Society

JUNIOR SCHOOL CURRICULUM DESIGN

PRE-TECHNICAL STUDIES

GRADE 9

DRAFT

First published 2024

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FOREWORD

The Government of Kenya is committed to ensuring that policy objectives for Education, Training and Research meet the aspirations of the Constitution of Kenya 2010, the Kenya Vision 2030, National Curriculum Policy 2019, the United Nations Sustainable Development Goals (SDGs) and the regional and global conventions to which Kenya is a signatory. Towards achieving the mission of basic education, the Ministry of Education (MoE) has successfully and progressively rolled out the implementation of the Competency Based Curriculum (CBC) at Pre-Primary, Primary and Junior School levels.

The implementation of Competency Based Curriculum involves monitoring and evaluation to determine its success. After the five-year implementation cycle, a summative evaluation of the primary education cycle was undertaken to establish the achievement of learning outcomes as envisaged in the Basic Education Curriculum Framework. The Government of Kenya constituted a Presidential working Party on Education Reforms(PWPER) in 2022 to address salient issues affecting the education sector. PWPER made far reaching recommendations for basic education that necessitated curriculum review. The recommendations of the PWPER, monitoring reports, summative evaluation, feedback from curriculum implementers and other stakeholders led to rationalisation and review of the basic education curriculum.

The reviewed Grade 9 curriculum designs build on competencies attained by learners at the end of Grade 8. Further, they provide opportunities for learners to continue exploring and nurturing their potentials as they prepare to transit to Senior School.

The curriculum designs present National Goals of Education, essence statements, general and specific expected learning outcomes for the subjects as well as strands and sub strands. The designs also outline suggested learning experiences, key inquiry questions, core competencies, Pertinent and Contemporary Issues (PCIs), values, and assessment rubric. It is my hope that all Government agencies and other stakeholders in Education will use the designs to plan for effective and efficient implementation of the CBC.

HON. EZEKIEL OMBAKI MACHOGU, CBS
CABINET SECRETARY,
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PREFACE

The Ministry of Education (MoE) nationally implemented Competency Based Curriculum (CBC) in 2019. Grade 9 is the final grade in Junior School in the reformed education structure.

The reviewed Grade 9 curriculum furthers implementation of the CBC from Grade 8 in Junior School. Grade 9 curriculum furthers implementation of the CBC from Grade 7. The main feature of this level is a broad curriculum for the learner to explore talents, interests and abilities before selection of pathways and tracks at the Senior Secondary education level. This is very critical in the realisation of the Vision and Mission of the on-going curriculum reforms as enshrined in the Sessional Paper No. I of 2019 whose title is: *Towards Realizing Quality, Relevant and Inclusive Education and Training for Sustainable Development* in Kenya. The Sessional Paper explains the shift from a Content - Focused Curriculum to a focus on **Nurturing every Learner's potential.**

Therefore, the Grade 9 curriculum designs are intended to enhance the learners' development in the CBC core competencies, namely: Communication and Collaboration, Critical Thinking and Problem Solving, Creativity and Imagination, Citizenship, Digital Literacy, Learning to Learn and Self-efficacy.

The curriculum designs provide suggestions for interactive and differentiated learning experiences linked to the various sub strands and the other aspects of the CBC. They also offer several suggested learning resources and a variety of assessment techniques. It is expected that the designs will guide teachers to effectively facilitate learners to attain the expected learning outcomes for Grade 9 and prepare them for smooth transition to Senior School. Furthermore, it is my hope that teachers will use the designs to make learning interesting, exciting and enjoyable.

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ACKNOWLEDGEMENT

The Kenya Institute of Curriculum Development (KICD) Act Number 4 of 2013 (Revised 2019) mandates the Institute to develop and review curricula and curriculum support materials for basic and tertiary education and training. The curriculum development process for any level of education involves thorough research, international benchmarking and robust stakeholder engagement. Through a systematic and consultative process, the KICD conceptualised the Competency Based Curriculum (CBC) as captured in the Basic Education Curriculum Framework (BECF)2017, that responds to the demands of the 21st Century and the aspirations captured in the Constitution of Kenya 2010, the Kenya Vision 2030, East African Community Protocol, International Bureau of Education Guidelines and the United Nations Sustainable Development Goals (SDGs).

KICD receives its funding from the Government of Kenya to facilitate successful achievement of the stipulated mandate and implementation of the Government and Sector (Ministry of Education (MoE) plans. The Institute also receives support from development partners targeting specific programmes. The revised Grade 9 curriculum designs were developed with the support of the World Bank through the Kenya Primary Education Equity in Learning Programme (KPEELP); a project coordinated by MoE. Therefore, the Institute is very grateful for the support of the Government of Kenya, through the MoE and the development partners for policy, resource and logistical support. Specifically, special thanks to the Cabinet Secretary-MoE and the Principal Secretary-State Department of Basic Education,

We also wish to acknowledge the KICD curriculum developers and other staff, all teachers, educators who took part as panelists; the Semi-Autonomous Government Agencies (SAGAs) and representatives of various stakeholders for their roles in the development of the Grade 9 curriculum designs. In relation to this, we acknowledge the support of the Chief Executive Officers of the Teachers Service Commission (TSC) and the Kenya National Examinations Council (KNEC) for their support in the process of developing these designs. Finally, we are very grateful to the KICD Council Chairperson and other members of the Council for very consistent guidance in the process.

We assure all teachers, parents and other stakeholders that this curriculum design will effectively guide the implementation of the CBC at Grade 9 and preparation of learners for transition to Senior School.

PROF. CHARLES O. ONG'ONDO, PhD, MBS
DIRECTOR/CHIEF EXECUTIVE OFFICER
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NATIONAL GOALS OF EDUCATION

Education in Kenya should:

1. **Foster nationalism and patriotism and promote national unity.**
   Kenya's people belong to different communities, races and religions, but these differences need not divide them. They must be able to live and interact as Kenyans. It is a paramount duty of education to help young people acquire this sense of nationhood by removing conflicts and promoting positive attitudes of mutual respect which enable them to live together in harmony and foster patriotism in order to make a positive contribution to the life of the nation.

2. **Promote the social, economic, technological and industrial needs for national development.**
   Education should prepare the youth of the country to play an effective and productive role in the life of the nation.
   a) **Social Needs**
      Education in Kenya must prepare children for changes in attitudes and relationships which are necessary for the smooth progress of a rapidly developing modern economy. There is bound to be a silent social revolution following the wake of rapid modernisation. Education should assist our youth to adapt to this change.
   b) **Economic Needs**
      Education in Kenya should produce citizens with the skills, knowledge, expertise and personal qualities that are required to support a growing economy. Kenya is building up a modern and independent economy which is in need of an adequate and relevant domestic workforce.
   c) **Technological and Industrial Needs**
      Education in Kenya should provide learners with the necessary skills and attitudes for industrial development. Kenya recognises the rapid industrial and technological changes taking place, especially in the developed world. We can only be part of this development if our education system is deliberately focused on the knowledge, skills and attitudes that will prepare our young people for these changing global trends.

3. **Promote individual development and self-fulfilment**
   Education should provide opportunities for the fullest development of individual talents and personality. It should help children to develop their potential interests and abilities. A vital aspect of individual development is the building of character.

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4. **Promote sound moral and religious values.**
Education should provide for the development of knowledge, skills and attitudes that will enhance the acquisition of sound moral values and help children to grow up into self-disciplined, self-reliant and integrated citizens.

5. **Promote social equity and responsibility.**
Education should promote social equality and foster a sense of social responsibility within an education system which provides equal educational opportunities for all. It should give all children varied and challenging opportunities for collective activities and corporate social service irrespective of gender, ability or geographical environment.

6. **Promote respect for and development of Kenya's rich and varied cultures.**
Education should instil in the youth of Kenya an understanding of past and present cultures and their valid place in contemporary society. Children should be able to blend the best of traditional values with the changing requirements that must follow rapid development in order to build a stable and modern society.

7. **Promote international consciousness and foster positive attitudes towards other nations.**
Kenya is part of the international community. It is part of the complicated and interdependent network of peoples and nations. Education should therefore lead the youth of the country to accept membership of this international community with all the obligations and responsibilities, rights and benefits that this membership entails.

8. **Promote positive attitudes towards good health and environmental protection.**
Education should inculcate in young people the value of good health in order for them to avoid indulging in activities that will lead to physical or mental ill health. It should foster positive attitudes towards environmental development and conservation. It should lead the youth of Kenya to appreciate the need for a healthy environment.

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LESSON ALLOCATION

S/No	Learning Area	Number of Lessons
1.	English	5
2.	Kiswahili / Kenya Sign Language	4
3.	Mathematics	5
4.	Religious Education	4
5.	Social Studies	4
6.	Integrated Science	5
7.	Pre-Technical Studies	4
8.	Agriculture	4
9.	Creative Arts and Sports	5
	Pastoral/Religious Instructional program	1*
Total		**40 +1***

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LEARNING OUTCOMES FOR JUNIOR SCHOOL

By end of Junior School, the learner should be able to:

1. Apply literacy, numeracy and logical thinking skills for appropriate self-expression.
2. Communicate effectively, verbally and non-verbally, in diverse contexts.
3. Demonstrate social skills, spiritual and moral values for peaceful co-existence.
4. Explore, manipulate, manage and conserve the environment effectively for learning and sustainable development.
5. Practise relevant hygiene, sanitation and nutrition skills to promote health.
6. Demonstrate ethical behaviour and exhibit good citizenship as a civic responsibility.
7. Appreciate the country's rich and diverse cultural heritage for harmonious co-existence.
8. Manage pertinent and contemporary issues in society effectively.
9. Apply digital literacy skills for communication and learning.

ESSENCE STATEMENT

Pre-Technical Studies is an integrated learning area comprising of Business, Computer and Technical Studies learning areas. It builds on the competencies acquired in Science and Technology, and other related learning areas at the Upper Primary School level. The learning area encompasses Foundations of Pre-Technical Studies, Communication in Pre-Technical Studies, Materials for Production, Tools and Production, and Entrepreneurship. These components aim to develop critical thinking, problem-solving, creativity, innovation, communication, digital literacy, and financial literacy skills, all considered essential to prepare learners for specialisation at Senior School.

This learning area is anchored on National Goals of Education No. 2 to provide the learners with the necessary skills and attitudes for industrial development, Kenya Vision 2030 on making education responsive to education needs, Sessional Paper No 1 of 2019, which recommended the promotion of technical and vocational education with an emphasis on Science, Technology, and Innovation (ST&I) in the school curriculum. It is also informed by the National ICT Policy of Kenya 2016 (revised 2020), which emphasises on use of ICT as a foundation for the creation of a more robust economy.

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SUBJECT GENERAL LEARNING OUTCOMES

By the end of Junior School, the learner should be able to:

1. Communicate effectively through the use of information and communication technology.
2. Select and use tools and materials in the production of goods and services.
3. Use financial and entrepreneurial competencies for prudent decision making.
4. Observe safety in the immediate environment to promote education for sustainable development.
5. Apply ICT skills to carry out activities in day-to-day life.
6. Create awareness on career choices in regard to career pathways and progression for self-development.

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SUMMARY OF STRANDS AND SUB STRANDS

Strands	Sub Strands	Suggested Number of Lessons
1.0 Foundations of Pre-Technical Studies	1.1 Safety on Raised Platforms	8
	1.2 Handling Hazardous Substances	9
	1.3 Self-Exploration and Career Development	6
2.0 Communication in Pre-Technical Studies	2.1 Oblique Projection	14
	2.2 Visual Programming	15
3.0 Materials for Production	3.1 Wood	8
	3.2 Handling Waste Materials	8
4.0. Tools and Production	4.1 Holding Tools	8
	4.2 Driving Tools	8
	4.3 Project	20
5.0 Entrepreneurship	5.1 Financial Services	4
	5.2 Government and Business	6
	5.3 Business Plan	6
Total Number of Lessons		**120**

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STRAND 1.0: FOUNDATIONS OF PRE-TECHNICAL STUDIES

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0 Foundations of Pre – Technical Studies	**1.1 Safety on Raised Platforms** (8 lessons)	By the end of the sub strand, the learner should be able to: a) identify types of raised platforms used in performing tasks, b) describe risks associated with working on raised platforms, c) observe safety when working on raised platforms, d) appreciate the need for observing safety while working on raised platforms.	The learner is guided to: • walk around the school to explore types of raised platforms (*ladders, trestles, steps, stands, mobile raised platforms, work benches, ramps),* • brainstorm on the types of raised platforms used in day-to-day life, • use print or digital media to search for information on risks associated with working on raised platforms, • discuss ways of minimising risks related to working on raised platforms, • role-play safety practices for working on raised platforms,	What is the importance of observing safety when working on raised platforms?

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			• visit the locality to observe safety precautions taken when working on raised platforms.	

Core Competencies to be developed:

- Communication and Collaboration: learner develops speaking, listening and teamwork skills when discussing ways of minimising risks and dangers related to working on raised platforms.
- Digital Literacy: learner acquires interacting with technology skills when using digital devices to search for information on risks associated with working on raised platforms.

Values:

- Unity**:** learner develops positive relationships as they discuss ways of minimising risks related to working on raised platforms.
- Love: learner cares for others to avoid injury as they role-play safety practices for working on raised platforms.
- Responsibility: learner cares for digital devices when using them to identify types of raised platforms.

Pertinent and Contemporary Issues (PCIs):

- Disaster Risk Reduction: learner acquires skills for mitigating risks when working on raised platforms.
- Safe and Security: learner acquires knowledge on safe work practices as they discuss ways of minimising risks related to working on raised platforms.

Link to other Subjects:

Integrated Science: learner enhances safety skills when role-playing safety practices for working on raised platforms.

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Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0 Foundations of Pre - Technical Studies	**1.2 Handling Hazardous Substances** (9 lessons)	By the end of the sub strand, the learner should be able to: a) identify hazardous substances found in the environment, b) classify hazardous substances found in the locality, c) describe safe ways of handling hazardous substances in the environment, d) handle hazardous substances safely in the environment, e) appreciate the importance of observing safety when handling hazardous substances.	The learner is guided to: • use print or digital media to search for information on hazardous substances (*poisonous, flammable, corrosive),* • explore the environment to identify hazardous substances (*poisonous, flammable, corrosive),* • group hazardous substances into poisonous, flammable or corrosive, • discuss safe ways of handling hazardous substances in the environment, • read and interpret instructions on the conditions for use of hazardous substances, • visit the locality to learn about safe handling of poisonous, flammable and corrosive substances, • practise safe handling of poisonous, flammable and corrosive substances in the environment, • discuss the importance of observing safety when handling hazardous substances.	1. Why are hazardous substances labelled? 2. How are hazardous substances handled?

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Core Competencies to be developed:

- Communication and Collaboration: learner develops speaking, listening and self-expression skills when discussing safe ways of handling hazardous substances.
- Learning to Learn: learner develops the skill of sharing learnt knowledge when discussing safe ways of handling hazardous substances.

Values:

- Respect: learner appreciates diverse opinions when discussing safe ways of handling hazardous substances in the immediate environment.
- Patriotism: learner respects fellow citizens when visiting the locality to learn about safe handling of poisonous, flammable and corrosive substances.

Pertinent and Contemporary Issues (PCIs):

- Disaster Risk Reduction: learner's ability to identify hazards is enhanced when discussing safe ways of handling hazardous substances in the environment.

Link to other Subjects

Integrated Science: learner enhances knowledge on laboratory safety when practising safe handling of poisonous, flammable and corrosive substances in the environment.

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Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0 Foundations of Pre-Technical Studies	**1.3 Self-Exploration and Career Development** (6 lessons)	By the end of the sub strand, the learner should be able to: a) explain ways of nurturing talents and abilities for self-development, b) relate talents and abilities to career pathways, c) analyse ethical and unethical practices related to the use of talents and abilities, d) choose a career based on talents and abilities for self-development.	The learner is guided to: • discuss and present on ways of nurturing talents and abilities, • display talents and abilities through clubs and societies and other planned school activities, • make a list of talents and abilities and their corresponding career pathways, • engage with a resource person on career opportunities related to talents and abilities, • discuss a case scenario on ethical and unethical practices related to the use of talents and abilities, • make presentations on careers of choice based on talents and abilities.	1. How are talents and abilities nurtured? 2. Why is self-exploration necessary for career development?

Core Competencies to be developed:

- Critical Thinking and Problem Solving: learner acquire interpretation and inference skills when reading and analysing a case scenario on ethical and unethical practices.
- Creativity and Imagination: learner acquires networking skills when displaying talents and abilities through clubs, societies and other planned school activities.

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Values:

- Integrity: learner develops a sense of accountability when analysing a case scenario on ethical and unethical practices related to the use of talents and abilities.
- Respect: learner shows open-mindedness when discussing and presenting on ways of nurturing talents and abilities.

Pertinent and Contemporary Issues (PCIs):

- Social Cohesion: learner cooperates with others when demonstrating their talents and abilities during talent shows.
- Peer Education and Mentorship: learner exchanges ideas with others when displaying talents and abilities through clubs and societies.

Link to other Subjects:

Creative Arts and Sports: learner enhances creativity when displaying talents and abilities through clubs and societies.

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Suggested Assessment Rubric				
Level / Indicator	**Exceeds expectations**	**Meets expectations**	**Approaches expectations**	**Below expectations**
Ability to describe risks associated with working on raised platforms	Describes risks associated with working on more than five raised platforms	Describes risks associated with working on five raised platforms	Describes risks associated with working on three to four raised platforms	Describes risks associated with working on two or less raised platforms
Ability to describe safe ways of handling hazardous substances in the environment	Describes safe ways of handling hazardous substances in the environment citing examples	Describes safe ways of handling hazardous substances in the environment	Describes some safe ways of handling hazardous substances in the environment	With prompts describes safe ways of handling hazardous substances in the environment
Ability to relate talents and abilities to career pathways	Relates talents and abilities to career pathways with illustrations	Relates talents and abilities to career pathways	Relates some talents and abilities to career pathways	With prompts relates talents and abilities to career pathways

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STRAND 2.0: COMMUNICATION IN PRE-TECHNICAL STUDIES

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
2.0 Communication in Pre-Technical Studies	**2.1 Oblique Projection** (14 lessons)	By the end of the sub strand, the learner should be able to: a) explain the characteristics of oblique drawing in technical fields, b) sketch given drawings in oblique projection, c) draw shaped blocks in oblique projection, d) appreciate the application of oblique projection in drawing.	The learner is guided to: • use print or digital media to search for information on the characteristic of oblique drawings, • brainstorm on the characteristic of oblique drawings, • discuss the steps for drawing shaped blocks in oblique projection, • draw given drawings in oblique projection without using instruments (*cavalier and cabinet*), • use geometrical set drawing instruments to draw shaped blocks in oblique projection (*cabinet*), • walk around the locality to observe the use of oblique drawings.	How are oblique drawings used in technical fields?

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Core Competencies to be developed: • Communication and Collaboration: learner develops speaking, listening and self-expression skills when brainstorming on the characteristic of oblique drawings. • Critical Thinking and Problem Solving: learner develops interpretation and inference skills when drawing oblique diagrams.
Values: • Responsibility: learner cares for drawing instruments when drawing three dimensional objects in oblique projection. • Unity: learner cooperates with others when using digital devices to search for information on the characteristics of oblique drawings.
Pertinent and Contemporary Issues (PCIs): Social Cohesion: learner develops ability to relate well with others as they brainstorm on the characteristics of oblique drawings.
Link to other Subjects: Mathematics: learner enhances skills of solid geometry when drawing oblique diagrams.

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Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
2.0 Communication in Pre-Technical Studies	**2.2 Visual Programming** (15 lessons)	By the end of the sub strand, the learner should be able to: a) explain the application areas of visual programming software in solving problems, b) create an application using visual programming software for solving problems in day-to-day life, c) embrace the use of visual programming in the day-to-day life.	The learner is guided to: ● use print or digital media to search for information on the application areas of visual programming, ● discuss the application areas of visual programming software, ● watch a video on how to develop an application using visual programming software (*games, stories and animations*), ● develop interactive stories, games and animations using visual programming software, ● practise using visual programming applications to solve problems in day-to-day life.	How are applications developed using visual programming software?

Core Competencies to be developed:

- Self-Efficacy: effective communication skills are developed as the learner discusses the application areas of visual programming with peers.
- Critical Thinking and Problem Solving: open-mindedness and creativity skills are enhanced as the learner develops an application using visual programming software.

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Value:

- Social Justice: learner shares resources equitably with others when working in groups to develop applications.
- Responsibility: learner takes care of digital devices when developing interactive stories, games and animations using visual programming software.

Pertinent and Contemporary Issues (PCIs):

- Peer Education and Mentorship: interpersonal relationships are enhanced as learner discusses the application areas of visual programming software.
- Internet Safety and Security: responsible online behaviour is enhanced as learner uses digital media to search for information on the application areas of visual programming.

Link to other Subjects

Creative Arts and Sports: learner enhances skills of animations when developing interactive stories and games.

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Suggested Assessment Rubric				
Level / Indicator	**Exceeds expectations**	**Meets expectations**	**Approaches expectations**	**Below expectations**
Ability to explain the characteristics of oblique drawing in technical fields	Explains the characteristics of oblique drawing in technical fields with illustrations	Explains the characteristics of oblique drawing in technical fields	Explains the characteristics of oblique drawing in technical fields leaving out few details	Explains the characteristics of oblique drawing in technical fields leaving out many details
Ability to create an application using visual programming software for solving problems in day-to-day life	Creates an application using visual programming software for solving problems in day-to-day life with enhanced user friendly features	Creates an application using visual programming software for solving problems in day-to-day life	Creates an application using visual programming software for solving problems in day-to-day life with basic features	Creates an application using visual programming software for solving problems in day-to-day life with simplistic features

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STRAND 3.0: MATERIALS FOR PRODUCTION

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
3.0 Materials for Production	**3.1 Wood** (8 lessons)	By the end of the sub strand, the learner should be able to: a) classify wood according to physical characteristics, b) describe the preparation of wood for use in the production of items, c) relate types of wood to their uses in the community, d) value the importance of wood in day-to-day life.	The learner is guided to: • use print or digital media to search for information on types of wood, • discuss the physical characteristics of wood (*soft and hard wood*), • use a checklist to sort wood as either softwood or hardwood, • discuss methods of wood preparation *(conversion and seasoning)*, • brainstorm on the uses of wood in different trades, • develop charts to match types of wood to their uses, • visit the locality to explore the uses of wood.	Why is wood important in day-to–day life?
Core Competencies to be developed: • Digital Literacy: learner develops interacting with technology skills when using digital devices to search for information on types of wood.				

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• Learning to Learn: learner acquires planning and time management skills when developing charts to match types of wood to their uses.
Values: • Unity: learner cooperates with others when using print or digital media to search for information on types of wood. • Respect: learner accepts diverse opinions when discussing the methods of wood preparation.
Pertinent and Contemporary Issues (PCIs): Peer Education and Mentorship: interpersonal relationships are enhanced as learner discusses the methods of wood preparation.
Link to other Subjects: Social Studies: learner enhances knowledge of resource exploitation as they brainstorm on the uses of wood in different trades.

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Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
3.0 Materials for Production	**3.2 Handling Waste Materials** (8 lessons)	By the end of the sub strand, the learner should be able to: a) identify waste materials found in the environment, b) describe ways of handling waste materials safely in the environment, c) dispose waste materials using appropriate methods, d) appreciate the need for proper handling of waste materials in the environment.	The learner is guided to: • walk around the school compound to identify waste materials, *(plastic, glass, metal, wood waste, electronic waste, construction waste),* • use print or digital media to search for information on safe ways of handling waste materials, • discuss safe ways of handling waste materials (*reduce, reuse, recycle, compost and burn*), • practise safe disposal of waste materials (*reduce, reuse, recycle, compost and burn*), • visit the locality to observe handling of waste materials.	How are waste materials handled in the locality?

Core Competencies to be developed:

- Self-Efficacy: effective communication skills are developed as the learner discusses safe ways of disposing waste materials.
- Digital Literacy: learner develops interacting with technology skills when using digital devices to search for information on safe ways of handling waste materials in the environment.

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Values: • Responsibility: learner engages in assigned roles when practicing safe disposal of waste materials. • Patriotism: learner is conscious of belonging to the community as they visit the locality to observe handling of waste materials.
Pertinent and Contemporary Issues (PCIs): Environmental Conservation: learner minimizes environmental pollution when reducing, reusing recycling waste materials.
Link to other Subjects Agriculture: learner enhances skills on organic gardening when composting waste materials.

Suggested Assessment Rubric				
Level / Indicator	**Exceeds expectations**	**Meets expectations**	**Approaches expectations**	**Below expectations**
Ability to describe the preparation of wood for use in production of items	Describes the preparation of wood for use in production of items in details	Describes the preparation of wood for use in production of items	Describes the preparation of wood for use in production of items leaving out a few details	Describes the preparation of wood for use in production of items leaving out many details
Ability to dispose waste materials using appropriate methods (*reduce, reuse, recycle, compost and burn)*	Disposes waste materials using five appropriate methods	Disposes waste materials using four appropriate methods	Disposes waste materials using three appropriate methods	Disposes waste materials using less than two appropriate methods

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STRAND 4.0: TOOLS AND PRODUCTION

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
4.0 Tools and Production	**4.1 Holding Tools** (8 lessons)	By the end of the sub strand, the learner should be able to: a) identify holding tools used in day-to-day life, b) select holding tools for performing given tasks, c) use holding tools to perform given tasks, d) care for holding tools used in day-to-day life, e) appreciate the importance of holding tools in day-to-day life.	The learner is guided to: • use visual aids or real objects to identify holding tools, • choose holding tools for different tasks, • discuss uses of different types of holding tools (*pliers, clamps, tongs, clips, vice*), • use print or digital media to search for information on safe use of holding tools, • demonstrate safe use of holding tools when performing different types of tasks, • clean and safely store holding tools, • share experiences on the use of holding tools.	How are holding tools used in day-to-day life?

Core Competencies to be developed:

- Communication and Collaboration: learner develops listening and speaking skills when discussing the uses of different types of holding tools.
- Learning to Learn: learner reflects on own work when demonstrating safe use of holding tools.

Values:

- Unity: learner cooperates with others when discussing on the safe use of holding tools.
- Responsibility: learner exercises accountability as they clean and safely store holding tools.

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Pertinent and Contemporary Issues (PCIs): Personal Safety and Security: learner demonstrates basic safety skills as they safely use holding tools to perform tasks.
Link to other Subjects: Agriculture**:** learner enhances skills on use of farm tools during demonstration on the safe use of holding tools.

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Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
4.0 Tools and Production	**4.2 Driving Tools** (8 lessons)	By the end of the sub strand, the learner should be able to: a) identify driving tools used in day-to-day life, b) select driving tools for performing given tasks, c) use driving tools to perform given tasks, d) care for driving tools used in day-to-day life e) acknowledge the importance of driving tools in day-to-day life.	The learner is guided to: • use visual aids or *realia* to identify driving tools in the community, • discuss uses of driving tools for different tasks (*hammer, screwdriver, spanner, punches, mallets*), • use print or digital devices to search and watch a video clip on the safe use of driving tools, • demonstrate safe use of driving tools to perform different types of tasks, • clean and safely store driving tools, • share experiences on the use of holding tools.	How are driving tools used in day-to-day life?
Core Competencies to be developed: • Self-Efficacy: learner acquires self-awareness skills when demonstrating safe use of driving tools to perform different types of tasks. • Digital Literacy: learner enhances interacting with technology skills when searching for information on safe use of driving tools.				
Values: • Respect: learner accommodates diverse opinions when sharing experiences on the use of holding tools. • Peace: learner follows laid down procedures when demonstrating safe use of driving tools.				

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Pertinent and Contemporary Issues (PCIs): Personal Safety and Security: learner demonstrates basic safety skills when using driving tools safely to perform tasks.
Link to other Subjects: Agriculture: learner enhances the knowledge on use of farm tools during demonstration on how to use and care for driving tools.

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Strand	Sub strand	Specific learning outcomes	Suggested learning experiences	Suggested Key Inquiry Question(s)
4.0 Tools and production	**4.3 Project** (20 lessons)	By the end of the sub strand the learner should be able to: a) identify a problem in the locality that can be solved using the skills acquired in Pre-Technical Studies, b) select an item that can be made to solve the identified problem, c) make an item to solve the problem identified using locally available materials, d) utilise skills acquired in Pre-Technical Studies to solve problems in day-to-day life.	The learner is guided to: • explore the locality to identify problems that can be solved using the skills acquired in Pre-Technical Studies, • brainstorm on the possible solutions to the identified problems, • use print or digital media to search for information on possible items to solve the identified problem, • discuss possible items that can be made to solve the identified problem, • select one item that can be made using the skills acquired to solve the identified problem, • sketch the item to be made using the skills acquired to solve the identified problem, • estimating the cost of materials for making the project item, • use locally available materials and tools to make the identified item, • estimate the cost to determine the price for the item, • present the finished items for feedback.	How are skills acquired in Pre-Technical Studies used to solve problems in the community?

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Core Competencies to be developed:

- Critical Thinking and Problem Solving: learner develops evaluation and decision making skills when selecting an item that can be made using the skills acquired.
- Creativity and Imagination: learner experiments with ideas when discussing possible items that can be made to solve the identified problem.

Values:

- Responsibility: learner cares for tools and materials when making the item.
- Respect: learner appreciates diverse opinions when discussing possible items that can be made to solve the identified problem.

Pertinent and Contemporary Issues (PCIs):

- Environmental Conservation: learner conserves natural resources when using locally available materials and tools to make the project item.
- Financial Literacy: learner enhances budgeting skills when estimating the cost of materials for making the project item.

Link to other Subjects:

Creative Arts and Sports: learner enhances drawing skills when sketching the project item.

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Suggested Assessment Rubric				
Level / **Indicator**	**Exceeds expectations**	**Meets expectations**	**Approaches expectations**	**Below expectations**
Ability to identify holding tools used in the locality	Identifies more than five holding tools used the locality	Identifies five holding tools used in the locality	Identifies three to four holding tools used in the locality	Identifies two holding tools used in the locality
Ability to use driving tools to perform given tasks	Consistently uses driving tools to perform given tasks	Uses driving tools to perform given tasks	Sometimes uses driving tools to perform given tasks	Rarely uses driving tools to perform given tasks with assistance
Ability to make an item to solve the identified problem	Makes an aesthetically appealing item to solve the identified problem	Makes an item to solve the identified problem	Makes an item that partially solves the identified problem	Needs assistance to make an item to solve the identified problem

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STRAND 5.0: ENTREPRENEURSHIP

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
5.0 Entrepreneurship	**5.1 Financial Services** (4 lessons)	By the end of the sub-strand, the learner should be able to: a) identify financial institutions available in Kenya, b) classify financial institutions in Kenya, c) analyse services offered by financial institutions in Kenya, d) utilise financial services for entrepreneurial development.	The learner is guided to: • use print or digital media to search for information on financial institutions available in Kenya, • discuss and present the types of financial institutions in Kenya (*banks, insurance, SACCOs, micro finance),* • use print or digital media to search for information on services offered by financial institutions in Kenya, • use a case study to discuss services offered by financial institutions in Kenya, • engage in a discussion with a resource person on the utilisation of financial services for entrepreneurial development.	What services are offered by different financial institutions in Kenya?
Core Competencies to be developed: • Learning to Learn: learner acquires skills of organising self-learning when searching for information on services offered by financial institutions in Kenya.				

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• Self-Efficacy: learner develops effective communication skills when discussing and presenting the types of financial institutions in Kenya. • Critical Thinking and Problem-Solving: learner develops interpretation and inference skills when identifying financial services.
Values: • Responsibility: learner cares for own property and those of others when handling digital devices when searching for information on financial services. • Unity: learner displays team spirit and collaborates with others when discussing and presenting on the types of financial institutions in Kenya.
Pertinent and Contemporary Issues (PCIs): Financial Literacy: learner's financial knowledge is enhanced when discussing and presenting on the types of financial institutions in Kenya.
Link to other Subjects: Agriculture: learner enhances knowledge on investment when searching for information on services offered by financial institutions in Kenya.

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Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
5.0 Entrepreneurship	**5.2 Government and Business** (6 lessons)	By the end of the sub strand, the learner should be able to: a) explain the reasons for government involvement in business, b) describe ways of government involvement in business, c) explore types of taxes in Kenya, d) analyse e-Government services in business, e) acknowledge the need to comply with Government regulations in business.	The learner is guided to: • brainstorm and present on the reasons for government involvement in business in Kenya, • use print or digital media to search for information on ways of Government involvement in business, • discuss and present on the meaning and importance of paying taxes in Kenya, • discuss types of taxes in Kenya (*income tax, VAT, corporate tax, fuel levy, excise duty)* and present to peers, • discuss a case scenarios on e-Government services in business such as registration and licensing of motor vehicle business by NTSA, among others, • use digital devices to access	Why is it important for the Government to get involved in business?

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			and interact with e-Government platform in Kenya.	

Core Competencies to be developed:

- Critical Thinking and Problem Solving; learner develops evaluating and decision making skills when discussing a case scenario on e- Government services in business.
- Digital Literacy: learner develops the skill of interacting with technology when using digital devices to access and interact with the e- Government platform in Kenya.

Values:

- Responsibility: learner acquires accountability skills when using digital devices to access and interact with e- Government platform in Kenya taxes in Kenya.
- Social justice: learner learns about the need for government involvement in business to promote fairness and equity across the society.

Pertinent and Contemporary Issues (PCIs):

- Financial Literacy: learner enhances financial skills when discussing and presenting on types of taxes paid in Kenya.
- Social Cohesion: learner enhances interpersonal relationships when brainstorming and presenting on the reasons for government involvement in business.

Link to other Subjects:

Social Studies: learner enhances knowledge on taxation when discussing the types of taxes.

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Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
5.0 Entrepreneurship	**5.3 Business Plan** (6 lessons)	By the end of the sub strand, the learner should be able to: a) explain the importance of a business plan in entrepreneurship, b) describe the components of a business plan in financial management, c) fill in a business plan template for a given business project, d) embrace the use of a business plan in entrepreneurship.	The learner is guided to: • use print or digital media to search for information on the meaning and importance of a business plan, • discuss and present the meaning and importance of a business plan, • brainstorm and present on the components of a business plan (*executive summary, business description, market/competitor analysis, product and services, marketing plan, financial projection*), • analyse a case scenario on the components of a business plan, • complete a business plan template (*executive summary, business description, market/competitor analysis, product and services, marketing plan, financial projection)*, • engage with a resource person on the use of a business plan.	1. Why is a business plan important to an entrepreneur? 2. How is a business plan prepared?

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Core Competencies to be developed: • Learning to Learn: learner acquires the skill of organising own learning when completing a business plan template. • Critical thinking and Problem Solving: learner acquires evaluation and decision-making skills when completing a business plan template.
Values: • Respect: learner shows regard for the input of every member when brainstorming and presenting the meaning and importance of a business plan. • Love: learner respects others when brainstorming and presenting the meaning and importance of a business plan.
Pertinent and Contemporary Issues (PCIs): Social Cohesion**:** learner works and cooperates with others when brainstorming on the meaning and importance of a business plan.
Link to other Subjects: Agriculture: learner enhances knowledge on marketing of agricultural produce when discussing business plan.

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Suggested Assessment Rubric				
Level / **Indicator**	**Exceeds expectations**	**Meets expectations**	**Approaches expectations**	**Below expectations**
Ability to identify financial institutions available in Kenya	Identifies four financial institutions available in Kenya	Identifies three financial institutions available in Kenya	Identifies two financial institutions available in Kenya	Identifies less than two financial institutions available in Kenya
Ability to explain the reasons for government involvement in business in Kenya	Explains the reasons for government involvement in business in Kenya citing examples	Explains the reasons for government involvement in business in Kenya	Explains some of the reasons for government involvement in business in Kenya	With prompts explains of the reasons for government involvement in business in Kenya
Ability to fill a business plan template (*executive summary, business description, market/competitor analysis, product and services, marketing plan, financial projection)*	Fills in six components of a business template giving specific details.	Fills in six components of a business template.	Fills in three to five components of a business template.	Fills in at most two components of a business template.

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APPENDIX 1: GUIDELINES FOR INTEGRATING COMMUNITY SERVICE LEARNING (CSL)

Introduction

In Grade 9, learners will undertake an integrated Community Service Learning (CSL) project of choice from a single or combined subject. The CSL project will enable the learner to apply knowledge and skills from other subjects to address a problem in the community. The implementation of the integrated CSL project will take a Whole School Approach, where all members of the school community including teachers, school administration, parents/guardians/ local community and support staff. It will be a collaborative effort where the teacher of Social Studies coordinates and works with other subject teachers to design and implement the integrated CSL project. The teachers will select a theme drawn from different Learning Areas and the broader categories of Pertinent and Contemporary Issues (PCIs) for the CSL project. It should also provide an opportunity for development of core competencies and nurturing of values. Learners will undertake a **variety of** integrated CSL group projects in teams of following a 6-step milestone approach as follows:

Milestone	**Description**
Milestone 1	**Problem Identification** Learners study their community to understand the challenges faced and their effects on community members. Some of the challenges in the community can be: • Environmental degradation • Lifestyle diseases, Communicable and non-communicable diseases • Poverty • Violence and conflicts in the community • Food security issues
Milestone 2	**Designing a solution**

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	Learners create an intervention to address the challenge identified.
Milestone 3	**Planning for the Project** Learners share roles, create a list of activities to be undertaken, mobilise resources needed to create their intervention and set timelines for execution
Milestone 4	**Implementation** The learners execute the project and keep evidence of work done.
Milestone 5	**Showcasing /Exhibition and Report Writing** Exhibitions involve showcasing learners' project items to the community and reflecting on the feedback Learners write a report detailing their project activities and learnings from feedback
Milestone 6	**Reflection** Learners review all project work to learn from the challenges faced. They link project work with academic concepts, noting how the concepts enabled them to do their project as well as how the project helped to deepen learning of the academic concepts.

NOTE: The milestones will be staggered across the 3 terms of the academic calendar.

Assessment of CSL integrated Project

Assessment for the integrated CSL group projects will be conducted formatively. The assessment will consider both the process and end product. This entails assessing each of the milestone stages of the integrated CSL group projects. They will focus on 3 components namely: skills from various learning areas applied in carrying out the projects, core competencies developed and values nurtured.

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APPENDIX 2: SUGGESTED ASSESSMENT METHODS, SUGGESTED LEARNING RESOURCES AND NON-FORMAL ACTIVITIES

Strands	Sub Strands	Suggested Assessment Methods	Suggested Learning Resources	Suggested Non-Formal Activities
1.0 Foundations of Pre-Technical Studies	1.1 Safety on Raised Platforms	• Oral tests • Observation • Checklist • Written test • Rubrics • Practical work	• Raised platforms • Video clips and visual aids • Personal protective equipment (PPEs)	Learners take a walk around the school and identify types of raised platforms including mobile raised platforms
	1.2 Handling Hazardous Substances	• Oral tests • Observation • Checklist • Written test • Rubrics • Project • Practical work	• Digital devices like video • Local work places • Personal protective equipment (PPEs) • Safety labels and manuals • Charts	Learners visit a nearby workshop in the locality to observe safe handling of poisonous, flammable and corrosive substances

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	1.3 Self-Exploration and Career Development	• Assignments • Self and peer assessment • Oral questions • Observation	• Digital resources • Volunteer resource person • Relevant textbooks and reference materials • Photographs and pictures • Charts	• Clubs and societies • School mentoring and coaching programmes • Field visit activities • School drama festivals with themes on talents and abilities • Discussion by a resource person on careers • Parental empowerment and engagement guidelines
2.0 Communication in Pre-Technical Studies	2.1 Oblique Projection	• Oral tests • Observation • Checklist • Written test • Rubrics • Project • Practical work • Portfolio	• Drawing papers • Pencils • Digital devices such as; computer, laptop, smart phone, tablets among others • Samples of free hand sketches • Three - dimensional realia	Learners take a walk around the school to observe and record the use of oblique drawings in the technical fields.

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	2.2 Visual Programming	• Rubrics • Projects • Portfolios • Written Tests • Observation Schedules • Checklists	• Reference Materials • Digital Devices • Manilla Papers • Internet • Video Clips • Audio Clips • Visual Programming Software	Share experience with the community members on the importance of visual programming in solving day to day problems
3.0 Materials for Production	3.1 Wood	• Observation • Checklist • Written test • Rubrics • Practical work	• Assorted Pieces of wood (hard and soft) • Career brochures, career magazines • Digital devices	Learners visit the locality to explore process of wood preparation and uses
	3.2 Handling of Waste Materials	• Checklist • Oral tests • Observation Schedule • Written test • Practical work • Rubrics	• Digital devices • Local workplaces • Personal protective equipment (PPEs) • Safety labels and manuals • Charts	Learners visit workplaces in the locality to observe safe handling of waste materials

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4.0. Tools and Production	4.1 Holding Tools	• Oral tests • Observation • Checklist • Written test • Rubrics • Practical work	• Pliers, clamps, vice, tongs, clips among others • Career brochures, career magazines • Digital devices	Learners visit the locality to identify the role of holding tools
	4.2 Driving Tools	• Oral tests • Observation • Checklist • Written test • Rubrics • Practical work	• Hammers, Screw driver, spanner, punches mallets among others • Career brochures, career magazines • Digital devices	Learners visit workplaces in the locality to observe the various uses, care and storage of driving tools
	4.3 Project	• Checklist • Portfolio • Observation Schedule • Rubrics	• Digital devices • Relevant textbooks and reference materials • Assorted tools and materials	Field visits to the local community to identify a problem in the community
5.0 Entrepreneurship	5.1 Financial Services	• Assignments • Written tests • Oral questions • Observation schedule	• Digital resources • Resource person • Relevant textbooks and reference materials	• Learners visit financial institutions to familiarise themselves with financial services • Club and societies • School drama festivals with themes on financial services

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				• Making posters with messages on financial services • Debates on financial services
	5.2 Government and Business	• Self and peer assessment • Oral questions • Observation • Checklist	• Digital resources • Resource person • Relevant textbooks and reference materials • Photographs and pictures • Charts	• Clubs and societies • School mentoring and coaching programmes • Posters with messages on government and business
	5.3 Business Plan	• Oral questions • Observation schedule • Written tests • Rubrics	• Digital devices • Resource person • Relevant textbooks and reference materials • Charts	• Clubs and societies • Field visit activities to businesses in the locality • Making posters with messages on business plan

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